

AMENDMENTS TO THE CLAIMS

Claims 1-15 are pending in the instant application. Claims 1-15 have been amended. New claims 16 and 17 have been added. The Applicant requests reconsideration of the claims in view of the following amendments reflected in the listing of claims.

Listing of claims:

1. (Currently Amended) A method for equalization in a communications system, the method comprising:

~~utilizing a block code based error correction scheme in a modulation system of the communication system; and~~

removing post cursor inter-symbol interference within an at least one error code correction code word to make code word decision with minimum error power based criteria in ~~[[the]]~~ a block code based error correction scheme,

wherein said block code based error correction scheme is utilized in the communication system.

2. (Currently Amended) The method of claim 1, wherein said removing of post cursor inter-symbol interference ~~further comprises utilizing a decision feedback~~

~~equalization filter to remove removing~~ symbol interferences from at least one previous error correction code word[[s]] utilizing a decision feedback equalization filter.

3. (Currently Amended) The method of claim 2, wherein said removing of post cursor inter-symbol interference ~~further~~ comprises utilizing distortion filtering in ~~[[the]]~~said decision feedback equalization filter, for generating filtered symbols.

4. (Currently Amended) The method of claim 3, wherein said utilizing of distortion filtering ~~further~~ comprises inserting a matrix multiplication-based filter after a feed forward equalizer filter and a feedback filter in the ~~modulation-communication~~ system, for symbol interference from ~~[[the]]~~ symbols in said at least one previous error correction code word[[s]].

5. (Currently Amended) The method of claim 3, wherein said removing of post cursor inter-symbol interference ~~further~~ comprises adding scalar terms for each of said at least one error correction code word to a decision metric of a real part of a projection of ~~[[the]]~~said filtered symbols to ~~[[the]]~~said at least one error correction code word[[s]].

6. (Currently Amended) A system for equalization in a communications system, the system comprising:

a modulation system utilizing a block code based error correction scheme; and

a feedback equalization filter provided within [[the]]said modulation system for removing post cursor inter-symbol interference within [[an]]at least one error ~~code~~ correction code word to make at least one code word decision with ~~minimum error~~ power-based criteria in [[the]]said block code based error correction scheme.

7. (Currently Amended) The system of claim 6₁ wherein [[the]]said decision feedback equalization filter removes symbol interferences from at least one previous error correction code word[[s]].

8. (Currently Amended) The system of claim 7₁ wherein ~~the decision-said~~ feedback equalization filter ~~further~~ comprises a distortion filter that generates filtered symbols.

9. (Currently Amended) The system of claim 8₁ wherein [[the]]said distortion filter ~~further~~ comprises a matrix multiplication-based filter inserted after a feed forward equalizer filter and a feedback filter for symbol interference from [[the]] symbols in said at least one previous error correction code word[[s]].

10. (Currently Amended) The system of claim 8₁ ~~further~~ comprising a decision metric for ~~the decision-said~~ feedback equalization filter, wherein scalar terms are added for each of said at least one error correction code word to [[the]]a decision metric of a

real part of a projection of [[the]]said filtered symbols to [[the]]said at least one error correction code word[[s]].

11. (Currently Amended) A method for equalization in a communications system, the method comprising:

performing block code based error correction during signal modulation in [[a]]the communications system; and

making at least one code word decision[[s]] with minimum error power-based criteria during [[the]]said block code based error correction with a decision feedback equalization filter that removes post cursor inter-symbol interference within [[an]]at least one error ~~code~~ correction code word.

12. (Currently Amended) The method of claim 11, wherein said making of said at least one code word decision[[s]] ~~further~~ comprises utilizing [[the]]said decision feedback equalization filter to remove symbol interference[[s]] from at least one previous error correction code word[[s]].

13. (Currently Amended) The method of claim 12, wherein said making of said at least one code word decision[[s]] ~~further~~ comprises utilizing a distortion filter in [[the]]said decision feedback equalization filter, for generating filtered symbols.

14. (Currently Amended) The method of claim 13, further comprising inserting a matrix multiplication-based filter after a feed forward equalizer filter~~[[ing]]~~ and a feedback filter for symbol interference from ~~[[the]]~~ symbols in said at least one previous error correction code word~~[[s]]~~ for ~~[[the]]~~said distortion filter.

15. (Currently Amended) The method of claim 13, further comprising utilizing a decision metric for ~~[[the]]~~said decision feedback equalization filter, wherein scalar terms are added for each error correction code word to ~~[[the]]~~a decision metric of a real part of a projection of ~~[[the]]~~said filtered symbols to ~~[[the]]~~said at least one error correction code word~~[[s]]~~.

16. (New) The method of claim 1, wherein said block code based error correction scheme is utilized in a modulation system of the communication system.

17. (New) The method of claim 1, comprising:
selecting a code word for said block code based error correction scheme, based on said removing of post cursor inter-symbol interference within said at least one error correction code word.